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(54) NONVOLATILE SOLID MAGNETIC MEMORY, ITS MANUFACTURING METHOD AND MULTICHIP PACKAGE

(57) Abstract:

PROBLEM TO BE SOLVED: To obtain a nonvolatile solid state memory capable of high speed recording/reproduction by protecting an MRAM appropriate to a WLP age from an external magnetic field thereby preventing an erroneous operation due to the external magnetic field and enhancing stability in the recording/reproducing operation of the memory element.

SOLUTION: An MRAM chip 100 is covered with an insulation layer 101 and further covered with a magnetic shield structure 102 except parts of electrode pads 103a and 103b becoming the interface with the outside (fig. (a)). An MRAM chip 111 and a second device 112 are stacked through die connection layers 113 and 114, respectively. The MRAM chip 111 is connected with the device 112 by means of a bonding wire 116 and connected with a semiconductor mounting substrate 110 by means of a bonding wire 117. An inter-

poser 119 is formed on the semiconductor mounting substrate 110 and connected with an external device through solder balls 120 on the rear surface. The package is sealed with a resin package 115 (fig. (b)).

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